<u>What Is Claimed Is:</u>

1.   An infusion data communication system having a communication link with which relevant administration data may be communicated in a medical fluid administration system, the administration system having a medical fluid container in which is located medical fluid for administration to a patient and a conduit with a lumen through which the medical fluid from the container is conducted to the patient for administration, the administration system having an upstream end at which the container is located and a downstream end at which the patient is located, the infusion data communication system comprising:

     a first data transmitting device located at either the upstream end or the downstream end, the first data transmitting device configured to transmit relevant administration data into the medical fluid residing in the lumen of the conduit; and

     a first data reader device engaged with the conduit at a position between the upstream end and the downstream end, the first data reader device configured to receive from the medical fluid in the lumen the relevant administration data transmitted into the medical fluid by the first data transmitting device.

2.   The infusion data communication system of claim 1 wherein the first data transmitting device is located at the medical fluid container and configured to transmit relevant administration data into medical fluid residing in the fluid container.

3.   The infusion data communication system of claim 2 wherein the first data transmitting device located at the medical fluid container comprises an RFID transponder.

4.   The infusion data communication system of claim 2 wherein the first data reader device comprises an RFID reader.

5.   The infusion data communication system of claim 2 wherein the first data transmitting device located at the medical fluid container is configured to transmit the relevant administration data into the medical fluid at a frequency and a power level selected such that the data will remain substantially within the lumen of the conduit.

6.   The infusion data communication system of claim 1 wherein the conduit comprises a drip chamber that is conductive to the relevant administration data.

7.   The infusion data communication system of claim 2 wherein the conduit is coupled to an infusion pump downstream from the medical fluid container and the first data reader device is located at the infusion pump.

8.   The infusion data communication system of claim 7 wherein the relevant administration data transmitted into the medical fluid comprises medication identification data, the infusion data communication system further comprising:

a processor located at the infusion pump and configured to receive medication identification data entered by an operator, the entered medication identification data comprising an identification of the medication expected to be infused to the patient by the infusion pump;

wherein the processor is configured to compare the entered medication identification data from the operator to the medication identification data received from the relevant administration data and provide an alert if the two medication identification data do not match.

9.   The infusion data communication system of claim 2 further comprising:

a second data transmitting device located at the patient, the second data transmitting device configured to transmit relevant patient data into the medical fluid residing in the fluid conduit;

wherein the first data reader device is further configured to receive from the medical fluid in the lumen the relevant patient data transmitted into the medical fluid by the second data transmitting device.

10.   The infusion data communication system of claim 9 wherein the relevant administration data from the first data transmitting device includes patient identification data and the relevant patient data from the second data transmitting device includes patient identification data, the infusion data communication system further comprising:

a processor operatively connected to the first data reader device and configured to compare the patient identification data from the relevant administration data to the patient

identification data from the relevant patient data and provide an alert if the two patient identification data do not match.

11. The infusion data communication system of claim 2 further comprising:

a second data transmitting device located at the patient, the second data transmitting device configured to transmit relevant patient data into the medical fluid residing in the fluid conduit at the patient; and

a second data reader device located at the conduit at a location upstream from the patient and downstream from the first data reader device, the second data reader device configured to receive from the medical fluid in the lumen the relevant patient data transmitted into the medical fluid by the second data transmitting device.

12. The infusion data communication system of claim 11 wherein the relevant administration data from the first data transmitting device includes patient identification data and the relevant patient data from the second data transmitting device includes patient identification data, the infusion data communication system further comprising:

a processor configured to compare the patient identification data from the relevant administration data to the patient identification data from the relevant patient data and provide an alert if the two patient identification data do not match.

13. The infusion data communication system of claim 11 wherein the conduit is coupled to an infusion pump between the upstream and downstream ends and the first and second data reader devices are located at the infusion pump.

14. The infusion data communication system of claim 11 wherein the relevant patient data of the second data transmitting device comprises a medical administration record of the patient.

15. The infusion data communication system of claim 11 wherein the second data transmitting device located at the patient comprises an RFID transponder.

16. The infusion data communication system of claim 15 wherein the RFID transponder at the patient is writable.

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17. The infusion data communication system of claim 11 wherein the first data reader device comprises a first RFID reader and the second data reader device comprises a second RFID reader.

18. The infusion data communication system of claim 11 further comprising:

a processor operatively connected to the second data reader device and configured to transmit current administration data into the medical fluid in the conduit through the second data reader device; wherein

the second data transmitting device is configured to receive the current administration data from the medical fluid in the conduit; and

the second data transmitting device is configured to write the received current administration data in the second data transmitting device.

19. The infusion data communication system of claim 1 wherein the first data transmitting device is located at the patient and is configured to transmit relevant patient data as the relevant administration data into the medical fluid residing in the conduit.

20. The infusion data communication system of claim 19 wherein the first data transmitting device located at the patient comprises an RFID transponder.

21. The infusion data communication system of claim 19 wherein the first data reader device comprises an RFID reader.

22. The infusion data communication system of claim 19 wherein the first data transmitting device located at the patient is configured to transmit the relevant patient data into the medical fluid at a frequency and a power level selected such that the data will remain substantially within the lumen of the conduit.

23. The infusion data communication system of claim 22 wherein the first data transmitting device is configured to transmit the relevant patient data into the patient prior to the data reaching the medical fluid residing in the lumen of the conduit.

24.   The infusion data communication system of claim 19 wherein the conduit is coupled to an infusion pump upstream from the patient and the first data reader device is located at the infusion pump.

25.   The infusion data communication system of claim 19 further comprising:

a container data transmitting device located at the medical fluid container, the container data transmitting device configured to transmit relevant administration data into medical fluid residing in the fluid container; and

a second data reader device located at the conduit at a location downstream from the fluid container, the second data reader device configured to receive from the medical fluid in the lumen the relevant administration data transmitted into the medical fluid by the container data transmitting device.

26.   The infusion data communication system of claim 25 wherein the conduit is coupled to an infusion pump between the upstream and downstream ends, and the first and second data reader devices are located at the infusion pump.

27.   The infusion data communication system of claim 25 wherein the relevant administration data from the container data transmitting device includes patient identification data and the relevant patient data from the first data transmitting device includes patient identification data, the administration system further comprising:

a processor configured to compare the patient identification data from the relevant administration data to the patient identification data from the relevant patient data and provide an alert if the two patient identification data do not match.

28.   A infusion data communication having a communication link with which relevant administration data may be communicated in a medical fluid administration system, the administration system having a medical fluid container in which is located medical fluid for administration to a patient and a conduit with a lumen through which the medical fluid from the container is conducted to the patient for administration, an infusion pump operating on the conduit to move fluid to the patient, the administration system having an upstream end at which

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the container is located and a downstream end at which the patient is located, the infusion data communication system comprising:

a container data transmitting device located at the medical fluid container, the container data transmitting device configured to transmit relevant administration data, including patient identification data and medication identification data, into medical fluid residing in the fluid container at a frequency and a power level selected such that the data will remain substantially within the lumen of the conduit;

a patient data transmitting device located at the patient, the patient data transmitting device configured to transmit the relevant patient data, including patient identification data, into the medical fluid at a frequency and a power level selected such that the data will remain substantially within the lumen of the conduit;

a first data reader device located at the conduit at the infusion pump, the first data reader device configured to receive from the medical fluid in the lumen the relevant administration data transmitted into the medical fluid by the first data transmitting device;

a second data reader device located at the infusion pump, the second data reader device configured to receive from the medical fluid in the lumen the relevant patient data transmitted into the medical fluid by the patient data transmitting device; and

a processor configured to compare the patient identification data from the relevant administration data to the patient identification data from the relevant patient data and provide an alert if the two patient identification data do not match.

29.   The infusion data communication system of claim 28 wherein:

the processor is located at the infusion pump and receives medication identification data entered by an operator comprising an identification of the medication expected to be infused to the patient by the infusion pump; and

the processor is configured to compare the medication identification data received from the operator to the medication identification data received from the relevant administration data and provide an alert if the two medication identification data do not match.

30.   The infusion data communication system of claim 28 wherein:

the relevant administration data transmitted by the container data transmitting device includes infusion parameter data; and

the processor is configured to program the pump to operate in accordance with the infusion parameter data transmitted from the container data transmitting device to the first data reader device.

31.   A method for communicating relevant administration data in a medication administration system, the administration system having a medical fluid container in which is located medical fluid for administration to a patient and a conduit with a lumen through which the medical fluid from the container is conducted to the patient for administration, the administration system having an upstream end at which the container is located and a downstream end at which the patient is located, the method comprising:

transmitting relevant administration data at either the upstream end or the downstream end into the medical fluid residing in the lumen of the conduit such that the data is confined to the lumen; and

receiving from the medical fluid in the lumen of the conduit at a position between the upstream end and the downstream end the relevant administration data.